

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-5 are pending, with Claims 1, 4 and 5 amended by the present amendment.

In the Official Action, Claims 1 and 3-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Boroczky et al. (U.S. patent 6,950,561, hereinafter Boroczky) in view of Keating (U.S. patent 6,072,538) and Katayama et al. (U.S. Patent 6,404,936, hereinafter Katayama); and Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Boroczky, Keating and Katayama in view of Cohen-Solal et al. (U.S. Patent 7,057,636, hereinafter Cohen).

Applicants acknowledge with appreciation the telephone discussion between the Examiner and Applicants' representative on September 7, 2007. During the telephone discussion, Applicants' Claim 1, Figure 6, and specification were compared to Figures 1 and 2 of Boroczky. The Examiner acknowledged that coding gain module 14 of Boroczky does not provide two separate inputs to gain control device 16. That is, the Examiner acknowledged that low pass filtering shown in step 52 of Figure 2 of Boroczky does not include an output that bypasses the disclosed temporal filtering and bilinear interpolation shown in Figure 2.

Claims 1, 4 and 5 are amended to recite Applicants' invention with varying language along the lines discussed during the interview. Support for this amendment is found in Applicants' originally filed specification.¹ No new matter is added.

Briefly recapitulating, amended Claim 1 is directed to

A signal processing apparatus comprising:

a generator configured to generate a luminance signal of an input video signal;

¹ Specification, Figure 6.

an extractor configured to extract a high frequency signal from said input video signal, and including a first bandpass filter connected to a coring circuit configured to output said high frequency signal;

a mask generator configured to generate a mask by masking image quality degrading components contained in said high frequency signal, and including an absolute value calculator connected to a second bandpass filter connected to a threshold processor connected to a point eliminator connected to a mask processor configured to output said mask, the second bandpass filter configured to output a bandpassed signal;

a gain factor generator configured to ***generate a gain factor based on two separate inputs, said two separate inputs being said mask and said low passed signal;***

a contour correction signal generator configured to generate a contour correction signal by multiplying said high frequency signal by said gain factor; and

a luminance corrector configured to correct said luminance signal based on said contour correction signal.

Amended Claims 4 and 5 recite “generating a gain factor based on two separate inputs, said two separate inputs being said mask and said filtered absolute value.”

Figure 1 of Boroczky shows an image processing apparatus. A luminance signal 2 is input into video receiver 56. The luminance signal 2 is filtered by a 2D peaking filter 4. This filtered signal is input to a variety of modules. In addition, the luminance signal 2 is input to coding gain module 14. Operations within the coding gain module includes a step of low pass filtering (S2). The output of the coding gain module 14 is input to a gain control module 16. However, as acknowledged during the telephone discussion of September 7, 2007, the low pass filter inherently within coding gain module 14 does not provide a separate input to the gain control module 16.

Furthermore, as acknowledged in the Official Action, Boroczky and Keating fail to disclose or suggest Applicants’ claimed absolute value calculator and threshold processor. To cure this deficiency, the Official Action points to step S9 of Katayama.

Katayama describes a subject image extraction method and apparatus. Figures 3A, 3B and 3C of Katayama show processing flows related to image extraction that are executed

by extraction apparatus 20. In this process, an initial mask extractor 26 calculates a difference between a normalized background and subject edge images in step S6, and extracts an edge seed by executing threshold value processing for the difference data in step S7. In steps S8 and S9, a color difference seed is extracted. The color difference seeds extracted by threshold value processing on the basis of differences of color components in units of pixels in the background and subject images input in step S1.

However, contrary to the Official Action, Applicants' claimed absolute value calculator is not disclosed by Katayama. The Official Action argues that Applicants' claimed absolute value calculator is part of the threshold processing of Katayama (which occurs in step S7, not step S9). However, an inspection of Figure 3A and the specification of Katayama reveals no mention of any type of absolute value calculation. Thus, Applicants interpret the rejection as arguing that absolute value calculation is inherent in the threshold processing of Katayama.

Assuming *arguendo* that the rejection is based on an assertion of inherency, Applicants submit that the assertion of inherency is insufficient to show that Katayama inherently teaches Applicants' claimed absolute value calculator because the rejection fails to show "that the alleged inherent characteristic necessarily flows from the teachings of the applied prior art"² Indeed, the Official Action provides no rationale for any direct or implied finding of inherency. "The fact that a certain result may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic."³ "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily

²See MPEP 2112 (emphasis in original) (citation omitted). See also same section stating that "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic," (emphasis in original). See also In re Robertson, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill,'" citing Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991); and "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient," Id. at 1269 (citation omitted)).

³ In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1995, 1957 (Fed. Cir. 1993).

present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”⁴ Because the Official Action provides no explanation of why Applicants’ claimed features are inherent, Applicants submit the rejection is improper.⁵ Thus, for another reason, Applicants submit that Claims 1, 4 and 5 distinguish over the applied references.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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⁴ *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

⁵ MPEP § 2112, IV “Examiner must provide rationale or evidence tending to show inherency.”